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ARIZONA LABOR MARKET INFORMATION NEWSLETTER

Vol. X No. 4
April 1986

Unemployment Rate

Seasonally Adjusted
February*

ARIZONA	6.5%
Maricopa Co.	5.3%
Pima Co.	5.2%
UNITED STATES	7.3%

Consumer Price Index

National-February
1967 - Base Year

Wage Earner/Clerical Worker -	323.2
% Chg. Yr. Ago	3.0
All Urban -	327.5
% Chg. Yr. Ago	3.2

Phoenix-4th Qtr.
1977 - Base Year

All Urban -	191.5
% Chg. Yr. Ago	3.9

Tucson-4th Qtr.
1st Qtr. 1983 - Base Qtr.

All Urban -	115.0
% Chg. Yr. Ago	5.1

* Preliminary

Performance Standards:
Management Control for Job Training Partnership Programs

Over the years, there have been many employment assistance programs. They have evolved from Wagner-Peyser Act programs of Job Service and Unemployment Insurance to Manpower Development and Training Act (MDTA) to Comprehensive Employment and Training Act (CETA) and now Job Training Partnership Act (JTPA) programs. Throughout the evolution of these federal/state cooperatively administered programs, there has been a desire for objective measures to gauge their success. Even more importantly, there has been a need for measuring the success of programs as administered in one region relative to those administered in another. That task has been confounded by the differences in economies and the varying client mixes of each administrative area.

At last, under JTPA, an evaluation method has been conceived that can deal with those differences. It is a method enabling modification to values of standards depending upon the differences in client characteristics and upon differences in economic circumstances. The performance standards are comprised of seven measures, four for adults and three for youth. They include:

Adult Measures

- Entered Employment Rate--the number of adults who entered employment at termination as a percentage of the total number of adults who terminated.

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Arizona Labor Market Information Newsletter
WINNER OF THE ICESA 1985 LMI PUBLICATION AWARD

Nancy Augustin, editor
Processed by RA Clerical Support Unit

- Welfare Entered Employment Rate--the number of adult welfare recipients who entered employment at termination as a percentage of the total number of adult welfare recipients who terminated.

- Average Wage at Placement--average hourly wage for all adults who entered employment at the time of termination.

- Cost per Entered Employment--total expenditures for adults divided by the number of adults who entered employment.

Youth Measures

- Entered Employment Rate--the number of youth who entered employment as a percentage of the number of youth who terminated.

- Positive Termination Rate--the number of youth who had a positive termination as a percentage of all youth who terminated. Positive terminations include entered employment, obtained employability enhancements, or attained Private Industry Council (PIC) approved youth competencies.

- Cost per Positive Termination--the total expenditures for youth divided by the number of youth who had a positive termination.

These measures are not unlike previous performance standards used under CETA. Even the Job Service has used placement rates (entered employment rates) as one measure of its success for many years. What is different under JTPA is the way values for the standards are modified to account for different client and economic circumstances of different administrative units. The method for determining appropriate adjustments allowing for these differences is statistical modeling and multiple regression analysis. Without getting into a technical discussion of these statistical procedures, suffice it to say that allowed modifications to standards are based on the historically known performance of employment and training programs, and statistically determined effects on performance standards of varying client populations and economic conditions.

For example, intuition suggests it might be more difficult for one program to have a high entered employment rate at termination of the program if it trained more high school dropouts than did another. National experience has verified this is so, and statistical analysis of data from programs around the country has determined how much of a difference (on average) it makes.

Other characteristics also make a difference, and some characteristics influence some standards more than others. Length of training, not surprisingly, has a significant effect on cost per entered employment either for adults or youth. Therefore, this program characteristic is taken into account in setting placement cost standards.

Some factors, when applied in a model, had effects counter to expectations from common sense. Serving a greater proportion of youth with limited English speaking ability, for instance, did not increase the cost of positive termination or decrease the percent entering employment. Because these effects could not be attributed to limited English proficiency, probably because of statistical problems in distinguishing the effects of limited English proficiency from the effects of various ethnic groups, it was excluded from the youth models.

Exclusions of some other factors were made for a number of other reasons. The factor of "services to heads of households" was excluded because its effects were "colinear" (moved in the same direction and magnitude) to other factors in the adult models. Students were excluded from adult models, and unemployment compensation claimants were excluded from youth models because there were too few of these groups in the sample. A youth unemployment rate could not be included in the youth models because youth unemployment rates (other than census-shared rates) are unavailable at the substate level.

A final list of factors for each performance standard was selected and included on worksheets for use by JTPA Service Delivery Area (SDA) administrators. The lists were expanded for program year (PY) 1986 to include the additional economic factors of "percent of families below poverty level" and "population density." Formerly the only economic factors used were the unemployment rate and the average wage for the area. Client characteristic factors composed the bulk of the performance standard adjustment factors. The longest list was associated with the adult entered employment rate and included:

Percent Female;
Percent 55 years old and over;
Percent Black;
Percent Hispanic;
Percent American Indian/Alaskian Native;
Percent Asian/Pacific Islander;
Percent Dropout;
Percent Handicapped;
Percent Unemployment Compensation (UC) Claimant; and
Percent Welfare Recipient.

The worksheets for each performance standard have two columns of values provided to enable SDAs to compute their own standards. (See example on page 4.) There is a column of national average values and a column of model-determined adjustment weights for each factor. It is only necessary that the SDAs insert their own client characteristics and economic factor values, compute the difference from the national averages, multiply these by the weights given, total the results, and add the total to the national departure point value to determine their expected performance standard. That may seem like a complex procedure to some, but it is easily accomplished with a hand calculator, or easier still, with a microcomputer with spreadsheet software.

Performance Monitoring and Improvement

A significant advantage for SDAs in working with performance standard worksheets or spreadsheets is being able to use them to keep track of how the SDA is doing and to develop strategies for improving performance. The National Alliance of Business (NAB) has prepared a booklet explaining the process. It is called Measuring-up: Planning and Managing with Performance Standards. In it, NAB explains there are two approaches. One is the "Oversight Response" option that helps to pinpoint factors in existing programs and systems which are causing performance problems. The second is the "Planning Response" option which helps identify new strategies for improving performance. Steps in the oversight response are to:

Step 1: Identify specific performance measures needing improvement through the Performance Status Report. (A special worksheet compares actual to expected performance.)

Step 2: Identify programs, contractors, or problems with target groups which may be causing poor performance. (A series of worksheets helps to target specific programs, contractors, and direct characteristics causing problems.)

Step 3: Identify probable systems causing poor performance either within the program or contractor, or throughout the entire program using the Oversight Response Summary. (Another worksheet lays out service and program components against standards likely to be influenced.)

Step 4: Use the Systems Summaries to conduct a review of each area identified above. (System Summaries break

down each service into "areas to be reviewed" and "method of review.")

Step 5: Design, implement, and follow-up on corrective action recommendations.

The planning response option (or replanning) is used in addition to the oversight response. It helps in initiating new policies with respect to:

- who will be served;
- what services and programs will be provided; and
- what will be acceptable peformance standards.

(A table is provided that identifies which client characteristics raise or lower what standard and which raise or lower the cost per entered adult employment and cost per positive youth termination.) See page 5.

Measuring-up can be obtained for $13.95 per copy from the:

National Alliance of Business
1015 15th Street, N.W.
Washington, D.C. 20005
Telephone: (202) 457-0040

Issues and the Arizona Experience

Despite the relatively mechanical nature of applying and model adjusting performance standards for each SDA, there are some circumstances that make application as much

PY 86 JTPA Performance Standards Worksheet			A. Service Delivery Area's Name YUMA COUNTY	B. SDA Number
C. Performance Period PY 86	D. Type of Standard [x] Plan [ ] Recalculated	Date Calculated 3/17/86	E. Performance Measure Entered Employment Rate (Adult)	

F. LOCAL FACTORS	G. SDA FACTOR VALUES	H. NATIONAL AVERAGES	I. DIFFERENCE (G MINUS H)	J. WEIGHTS	K. EFFECT OF LOCAL FACTORS ON PERFORMANCE EXPECTATIONS, (I TIMES J)
1. % Female	71.2	52.8	18.4	- .063	- 1.16
2. % 55 years old and over	2.5	2.9	- .4	- .079	+ .03
3. % Black	9.9	23.8	-13.9	- .073	+ 1.01
4. % Hispanic	42.4	7.9	34.5	- .022	- .76
5. % Alaskan Native/American Indian	4.9	1.3	3.6	- .010	- .04
6. % Asian/Pacific Islander	0.8	2.4	- 1.6	- .008	+ .01
7. % Dropout	45.0	25.0	20.0	- .172	- 3.44
8. % Handicapped	4.8	9.1	- 4.3	- .128	+ .55
9. % UC Claimant	16.5	10.9	5.6	.014	+ .08
10. % Welfare Recipient	14.0	29.8	-15.8	- .252	+ 3.98
11. Average Wage for Area ($1000s)	14.0	16.9	- 2.9	- .653	+ 1.89
12. Unemployment Rate	14.9	8.0	6.9	- .717	- 4.95
13. % Families Below Poverty Level	12.3	9.4	2.9	- .223	- .65
14. Population Density (1000s/sq.m.)	0.0	0.6	- .6	.827	- .50
			L. Total		- 3.92
			M. NATIONAL DEPARTURE POINT		+ 62.40
			N. Model-Adjusted Performance Level (L + M)		58.48%
			O. Governor's Adjustment		0
			P. SDA Performance Standard		58.48%

(12-16-85)

EFFECT OF CHANGING VARIABLES ON PERFORMANCE STANDARDS
(Listed in order of significance of impact)

Performance Standard	Raises Standards if increased	Lowers Standards if increased
Entered Employment Rate – Adult (The hierarchy of variables for Welfare Entered Employment Rate is the same as it is for Entered Employment Rate.)	1. Age 55 + 2. U. I. Claimant 3. Hispanic 4. Asian/Pacific Islander	1. Unemployment Rate* 2. Average Wage* 3. Female 4. Welfare 5. Handicapped 6. Dropout 7. Alaskan/American Indian 8. Black 9. Limited English Speaking
Average Wage at Placement – Adult	1. Average Wage* 2. Alaskan/American Indian 3. Age 55 + 4. U. I. Claimant 5. Asian/Pacific Islander 6. Limited English Speaking 7. Unemployment Rate*	1. Female 2. Dropout 3. Handicapped 4. Black 5. Hispanic 6. Welfare
Entered Employment Rate – Youth	1. High School Graduate 2. Dropout 3. Asian/Pacific Islander 4. Female	1. Unemployment Rate* 2. Age 14 – 15 3. Average Wage* 4. Single Head of Household 5. Alaskan/American Indian 6. Black 7. Welfare 8. Hispanic 9. Handicapped
Positive Termination Rate – Youth	1. Asian/Pacific Islander 2. Age 14 – 15 3. Female 4. Alaskan/American Indian 5. Handicapped	1. Unemployment Rate* 2. Average Wage* 3. Single Head of Household 4. Black 5. Welfare 6. Hispanic
Raising/lowering the cost standards below has different implications than raising/lowering the four standards listed above. Exceeding your standard for the two cost standards means actual performance lower than the standard.		
Cost Per Entered Employment – Adult	1. Average Wage* 2. Average Weeks Part. 3. Unemployment Rate* 4. U.I. Claimant 5. Handicapped 6. Female 7. Welfare 8. Black 9. Hispanic 10. Limited English Speaking	1. Age 55 + 2. Alaskan/American Indian 3. Dropout 4. Asian/Pacific Islander
Cost Per Positive Termination – Youth *Not influenced by SDA	1. Unemployment Rate* 2. Average Wage* 3. Average Weeks Part. 4. Single Head of Household 5. Handicapped 6. Welfare 7. Black 8. Hispanic	1. Alaskan/American Indian 2. Age 14 – 15 3. Female 4. Asian/Pacific Islander

SOURCE: Reproduced from Measuring-up by permission of the National Alliance of Business.

art as science. For example, an additional step at the end of each performance standard worksheet is a final adjustment that may be made at the discretion of the governor. The U.S. Department of Labor recognizes that there may be other factors than those accounted for in the model that are outside the management control of SDAs and which may affect performance. The governor's adjustment factor is permitted to take account of these outlying factors. For example, an SDA may choose to serve ex-offenders. No adjustment factor has been model-identified to account for service to ex-offenders. Therefore, the governor may make an add-factor adjustment.

The Labor Department recommends that these adjustments be within the tolerance limits it has determined are reasonable. Otherwise, the Department will back the governor on any appeal of sanctions to the Secretary of Labor if the procedures for adjusting performance standards are:

- responsive to the intent of the Act;
- consistently applied among SDAs;
- objective and equitable throughout the state; and
- in conformance with widely accepted statistical criteria.

In addition, source data must be:

- of public use and quality; and
- available upon request.

Results must be:

- documented clearly; and
- reproducible.

Adjustment factors must be limited to:

- economic factors;
- labor market conditions;
- characteristics of the population to be served;
- geographic factors; and
- types of services to be provided.

All of that seems clear enough on its face, but in actual practice there is wide latitude over which reasonable persons may differ. In Arizona there have been requests for adjustments, and a majority have been granted after the state received necessary documentation in support of the adjustment. Nevertheless, there is a need for a more regular procedure in accepting, evaluating, granting, and documenting requests for adjustments.

An issue that is usually settled based on the recommendation of the State Job Training Coordinating Council (SJTCC) is whether to apply current or a former year's performance standard values as the basis for the present year's evaluation for winning incentive awards or improving sanctions. So far, the SJTCC has elected to hold to previous year's standards rather than the current year's on the rationale that it is better for an SDA to know the standard to which it will be held before it plans programs and awards contracts. Although this approach has been acceptable to the U.S. Department of Labor, it is counter to the recommendation of its technical assistance Guide For Setting JTPA Title II-A Performance Standards. The Guide recommends using current year standards so that the SDAs may use the performance standards as tools of management control. Nevertheless the present policy may be maintained for at least another year because the Council does not believe all the state SDAs would now be able to understand and apply the Guide's methodology.

Some other issues before committees of the SJTCC have to do with urban and rural differences. More often than not, differences center on whether incentives for performance should be awarded based upon absolute numbers served, or upon relative numbers served. Of course, urban areas have an advantage with absolute numbers, while rural areas are more likely to win awards based on rates or relative numbers served. It is the Council's and the state's task to be equitable to both.

The Welfare to Work Incentive

Early in 1986, Governor Babbitt advanced an initiative to ensure that all available and appropriate resources of the state be used to put welfare recipients to work. Because JTPA also has "welfare to work" as one of

its goals, the SJTCC responded with a challenge to the SDAs to make an even greater effort to serve welfare clients. Because the majority of welfare clients that can benefit most from JTPA services are those adults who recieve Aid to Families with Dependent Children (AFDC), the SJTCC elected to reward targeting them specifically. A Welfare to Work Ad Hoc Committee of the SJTCC proposed a plan, contigent on the governor's approval, to distribute carryover incentive funds to those SDAs who served AFDC recipients from January 1 through June 30, 1986. In addition, it planned to:

1. Establish a ninth* performance standard to measure service to AFDC clients to be effective beginning July 1, 1986.

2. Limit receipt of ninth standard incentive awards to those SDAs exceeding 25 percent AFDC placement. (AFDC placement is defined as placement in unsubsidized employment for no less than 60 days.)

3. Award 30 percent of all available incentive funds based on the ninth performance standard.

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*An eighth performance standard, the first proposed by the council, provides incentive awards for targeting the "hard to serve." The hard to serve include welfare clients, dropouts, and others.

In order to facilitate action by the SDAs yet this program year, the committee recommended permitting administrative revisions by Private Industry Councils (PICs) of their current year's Job Training Plans.

The foregoing actions now challenge the SDAs and the Job Training Partnership Administration of the Department of Economic Security to carry out the initiative. All parties concerned would be well served in using the management control tools of the performance standards methodology.

Ron Simon

Growing Industries in Arizona

Thirty-one industries throughout Arizona have had growing employment levels from 1979 through 1985. A study of information from various sources, including Unemployment Insurance data, Current Employment Statistics data, and local periodicals, revealed the growing industries listed in the accompanying table. Also in the table are the counties in which those industries are growing.

These industries were determined to be growing by observing the changes in employment levels during a seven-year span, 1979 through 1985. That period of time was chosen in order to negate the effects of the business cycle. Any changes that have occurred in 1986 are not reflected in this study.

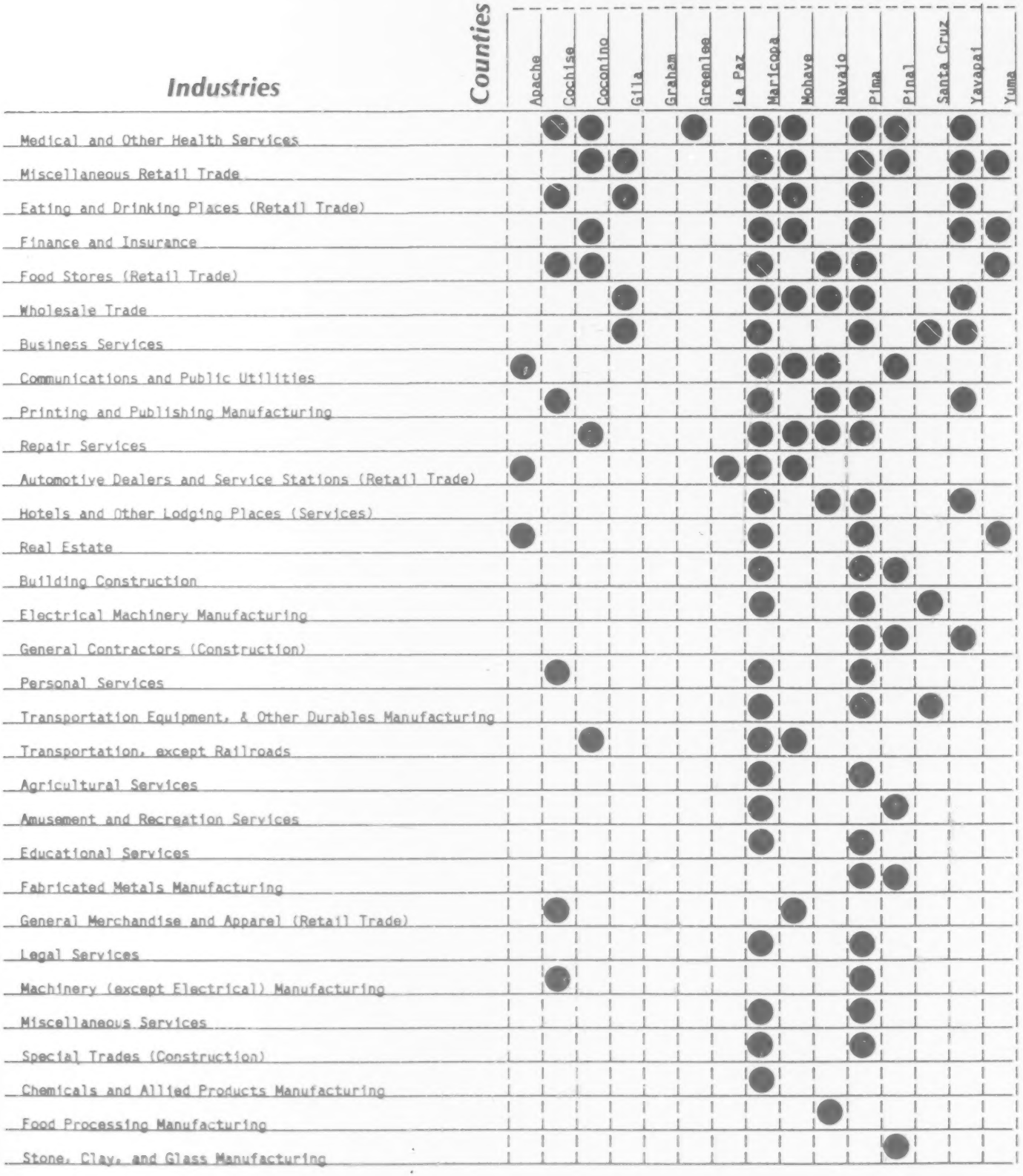
The industries that are growing in the greatest number of counties are medical and other health services, and miscellaneous retail trade. Maricopa County had the largest number of growing industries--25. However, every county except Graham had at least one growing industry.

The diversity of the growing industries, which include parts of all major employment sectors in Arizona except mining, is an indication of a healthy economy. Although the urban counties contain more growing industries, the rural counties have also experienced growth in some sectors during the seven-year period.

A list of the occupations with high employment levels that are associated with these industries as well as information on declining industries and occupations can be obtained by writing to the address on the back of the Newsletter or calling (602) 255-3871.

Barbara Keene

Growing Industries in Arizona



The Arizona Labor Force in February

Nationally, the largest jump in the unemployment rate since May 1980 was recorded in February. In Arizona, the unemployment rate rose only slightly as layoffs in construction and mining continued to be a drag on the economy. Strong population growth in the Phoenix and Tucson areas, coupled with the peak of winter tourism activity, were more than enough to keep overall job growth positive. But compared to the experience of one year ago, when 17,500 jobs were added to the local economy, February's performance of 13,900 jobs shows that the economy has cooled.

For the second time this year, Pima County recorded the lowest unemployment rate in the state. This is particularly impressive considering the dual problems of copper mining layoffs and loss of trade due to the devalued peso. But a strong manufacturing base, principally-defense related, coupled with an expansion of tourism business, has helped the local economy to prosper.

For over 12 months, manufacturing has been buffeted by the positive influence of increased defense purchases and the negative effect of semiconductor losses. The situation was no different in February as local high technology manufacturers either gained or lost employment depending on their area of specialization. Aerospace added 400 workers during the month while electronics lost 300. That situation may begin to change soon. Among electronics manufacturers, the much watched book-to-bill ratio has returned to a point where more orders are being received than are being shipped. While it is too soon to ring the bells and rejoice, it does appear that the situation is stabilizing and layoffs will begin to decline. But on the negative side, our dependence on defense expenditures could place us in jeopardy of losing jobs or not growing as quickly as would otherwise be true, if purchase plans are reduced. At this point, no definite strategies are known.

In copper mining, employment had been drifting downward slowly. But due to some major staffing reductions, another 400 copper miners lost their jobs in February. These losses were again in the state's rural areas where unemployment is high and comparable jobs are scarce. Considering that contract negotiations will begin soon (the existing contracts expire on June 30) the results of that bargaining will dictate how the industry will operate in the future. At this point, copper mines are operating with much less than half of the labor force they once employed.

Much of the economic news recently has been directed to falling interest rates. While that clearly has a positive impact on residential housing, its influence has not yet appeared in the employment figures. Construction employment has been falling since June 1985, and in February another 2,100 jobs were lost. The declines were pervasive throughout the industry and continue to reflect completed commercial and multi-family projects. During the next few months, construction employment is expected to expand as lower mortgage rates encourage more home building. But the overall impact on the industry is not expected to be startling.

The rest of Arizona's economy displayed expected seasonal activity. The expansion in government reflects schools reopening after the Christmas recess, while the loss of retail trade employment is the result of temporary jobs ending after the holiday season. Both were generally of the magnitude expected.

Finally in services, the strong employment growth of the last two years continued in February. Another 4,100 jobs were created in nearly every sector of the industry. Particularly strong growth was noted in tourist-related businesses, among tax preparers, and in various temporary help agencies.

Overall, February was a mixture of pluses and minuses. The unemployment rate is trending upward, but job growth remains strong in the Phoenix and Tucson areas. Manufacturing appears to be approaching a point of stability, particularly among the semiconductor firms; and if lower mortgage rates can reverse the slide in construction, 1986 holds the promise for a good year.

Dan Anderson

Arizona Labor Force and Employment

February 1986 (in thousands)

	ARIZONA				
				-- Amt Change --	
	Feb.* 1986	Jan. 1986	Feb. 1985	Jan. to Feb.	1985 to 1986
TOTAL CIVILIAN LABOR FORCE**	1526.7	1514.2	1463.7	+12.5	+63.0
Total Unemployment	99.1	97.7	88.8	+1.4	+10.3
Rate	6.5	6.5	6.1	---	---
Rate (Sea. Adj.)***	6.5	6.4	6.1	---	---
Total Employment	1427.6	1416.5	1374.9	+11.1	+52.7

The Above Labor Force Statistics Should Not

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

TOTAL WAGE AND SALARY	1318.4	1304.5	1248.1	+13.9	+70.3
Manufacturing	181.1	181.2	178.5	-0.1	+2.6
Durable Goods	142.4	142.6	141.3	-0.2	+1.1
Stone, Clay and Glass	7.9	8.1	7.6	-0.2	+0.3
Primary and Fabricated Metals	16.7	16.9	17.0	-0.2	-0.3
Primary Metals	8.0	8.0	7.5	+0.0	+0.5
Fabricated Metals	8.7	8.9	9.5	-0.2	-0.8
Machinery	64.7	65.0	70.4	-0.3	-5.7
Other Durable Goods	53.1	52.6	46.3	+0.5	+6.8
Aircraft and Missiles	25.6	25.2	20.6	+0.4	+5.0
Lumber and Wood Products (Except Furniture)	7.5	7.6	6.9	-0.1	+0.6
All Other Durable Goods	20.0	19.8	18.8	+0.2	+1.2
Nondurable Goods	38.7	38.6	37.2	+0.1	+1.5
Food and Kindred Products	8.6	8.7	8.3	-0.1	+0.3
Apparel	5.1	5.1	4.8	+0.0	+0.3
Printing and Publishing	14.5	14.4	14.1	+0.1	+0.4
All Other Nondurable Goods	10.5	10.4	10.0	+0.1	+0.5
Mining and Quarrying	11.0	11.5	12.1	-0.5	-1.1
Copper Mining	8.6	9.0	9.5	-0.4	-0.9
Other Mining and Quarrying	2.4	2.5	2.6	-0.1	-0.2
Construction	107.7	109.8	104.6	-2.1	+3.1
Trans., Communications, and Public Utilities	64.2	63.6	62.0	+0.6	+2.2
Transportation	28.7	28.9	28.4	-0.2	+0.3
Communications and Public Utilities	35.5	34.7	33.6	+0.8	+1.9
Trade	329.9	330.1	304.1	-0.2	+25.8
Wholesale Trade	64.7	64.4	61.9	+0.3	+2.8
Retail Trade	265.2	265.7	242.2	-0.5	+23.0
General Merchandise and Apparel	40.5	42.5	39.3	-2.0	+1.2
Food Stores	40.1	40.0	37.0	+0.1	+3.1
Automotive and Service Stations	31.4	31.4	28.7	+0.0	+2.7
Eating and Drinking Places	98.3	96.6	86.3	+1.7	+12.0
Other Retail Trade	54.9	55.2	50.9	-0.3	+4.0
Finance, Insurance, and Real Estate	85.3	84.7	76.9	+0.6	+8.4
Services and Miscellaneous	309.8	305.7	287.8	+4.1	+22.0
Hotels and Other Lodging Places	31.5	30.7	29.6	+0.8	+1.9
Business Services	68.8	67.5	63.2	+1.3	+5.6
Health Services	76.4	75.9	72.2	+0.5	+4.2
Other Services	133.1	131.6	122.8	+1.5	+10.3
Government	229.4	217.9	222.1	+11.5	+7.3
Federal	41.0	40.9	39.5	+0.1	+1.5
State and Local	188.4	177.0	182.6	+11.4	+5.8
School	113.0	102.3	112.5	+10.7	+0.5

* Preliminary
** Labor force, unemployment, and employment are reported by place of residence.
*** Normal seasonal variations have been eliminated to reflect underlying economic trends.
NOTE--Prepared in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics.

February 1986 (in thousands)

MARICOPA COUNTY					PIMA COUNTY				
			-- Amt Change --					-- Amt Change --	
Feb.* 1986	Jan. 1986	Feb. 1985	Jan. to Feb.	1985 to 1986	Feb.* 1986	Jan. 1986	Feb. 1985	Jan. to Feb.	1985 to 1986
947.1	941.3	906.2	+5.8	+40.9	301.4	298.5	288.6	+2.9	+12.8
50.0	50.2	42.4	-0.2	+7.6	15.8	15.7	15.6	+0.1	+0.2
5.3	5.3	4.7	---	---	5.2	5.3	5.4	---	---
5.3	5.3	4.7	---	---	5.2	5.2	5.3	---	---
897.1	891.1	863.8	+6.0	+33.3	285.6	282.8	273.0	+2.8	+12.6

e Used for Economic Assistance Programs

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

868.7	859.8	821.3	+8.9	+47.4	240.5	238.1	227.1	+2.4	+13.4
129.2	129.2	130.5	+0.0	-1.3	32.7	32.6	29.9	+0.1	+2.8
102.8	102.9	104.7	-0.1	-1.9	27.5	27.5	25.0	+0.0	+2.5
4.9	5.1	4.7	-0.2	+0.2					
11.2	11.2	11.3	+0.0	-0.1					
50.8	51.2	56.7	-0.4	-5.9					
35.9	35.4	32.0	+0.5	+3.9					
26.4	26.3	25.8	+0.1	+0.6	5.2	5.1	4.9	+0.1	+0.3
5.5	5.6	5.5	-0.1	+0.0					
3.2	3.2	2.9	+0.0	+0.3					
10.5	10.4	10.4	+0.1	+0.1					
7.2	7.1	7.0	+0.1	+0.2					
0.6	0.6	0.6	+0.0	+0.0	2.1	2.1	2.5	+0.0	-0.4
75.3	76.6	74.5	-1.3	+0.8	20.9	21.5	19.4	-0.6	+1.5
41.9	41.8	40.1	+0.1	+1.8	9.1	9.1	9.2	+0.0	-0.1
19.7	19.7	19.3	+0.0	+0.4	4.2	4.2	4.3	+0.0	-0.1
22.2	22.1	20.8	+0.1	+1.4	4.9	4.9	4.9	+0.0	+0.0
227.1	227.2	207.7	-0.1	+19.4	53.8	54.1	50.4	-0.3	+3.4
51.4	51.0	48.9	+0.4	+2.5	7.4	7.5	7.2	-0.1	+0.2
175.7	176.2	158.8	-0.5	+16.9	46.4	46.6	43.2	-0.2	+3.2
26.2	27.6	25.1	-1.4	+1.1	7.0	7.4	7.4	-0.4	-0.4
26.1	26.0	23.8	+0.1	+2.3	6.5	6.5	5.9	+0.0	+0.6
20.0	20.0	18.3	+0.0	+1.7	5.4	5.4	4.6	+0.0	+0.8
65.4	64.3	56.5	+1.1	+8.9	18.0	17.8	16.3	+0.2	+1.7
38.0	38.3	35.1	-0.3	+2.9	9.5	9.5	9.0	+0.0	+0.5
67.1	66.5	60.4	+0.6	+6.7	12.0	12.0	10.8	+0.0	+1.2
211.2	207.7	196.1	+3.5	+15.1	58.8	58.2	54.3	+0.6	+4.5
18.4	17.9	18.2	+0.5	+0.2	5.7	5.5	4.9	+0.2	+0.8
56.2	55.1	51.9	+1.1	+4.3	10.0	9.9	8.9	+0.1	+1.1
51.0	50.5	48.0	+0.5	+3.0	16.1	16.0	15.3	+0.1	+0.8
85.6	84.2	78.0	+1.4	+7.6	27.0	26.8	25.2	+0.2	+1.8
116.3	110.2	111.4	+6.1	+4.9	51.1	48.5	50.6	+2.6	+0.5

-- Prepared by Labor Market Information, Research and Analysis (CPS, 1/86)

Nonmetropolitan Counties
Labor Force and Employment
February 1986

	Apache	Cochise	Coconino	Gila	Graham	Green-lee	La Paz
TOTAL CIVILIAN LABOR FORCE*.	15,350	35,500	38,275	11,825	7,875	2,950	4,575
Total Unemployment	3,000	2,975	3,775	1,975	850	300	825
Rate	19.5%	8.4%	9.9%	16.7%	10.8%	10.2%	18.0%
Rate (Seas. Adj.)**	19.1%	8.1%	9.5%	16.4%	10.9%	9.5%	-INA-
Total Employment	12,350	32,525	34,500	9,850	7,025	2,650	3,750
THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED FOR ECONOMIC ASSISTANCE PROGRAMS							
TOTAL WAGE AND SALARY. . . .	14,025	24,575	34,150	9,325	4,850	2,800	2,625
Manufacturing.	725	1,975	2,650	1,300	175	50	75
Mining and Quarrying	25	125	25	1,075	0	1,675	0
Construction	875	1,300	1,525	400	125	100	150
Trans., Comm., & Pub. Util..	1,675	1,750	3,100	375	175	50	50
Trade.	1,450	5,375	7,675	1,850	1,300	275	850
Fin., Insur., & Real Estate.	225	650	725	250	125	25	100
Services and Miscellaneous .	3,700	3,575	7,575	1,600	850	75	625
Government	5,350	9,825	10,875	2,475	2,100	550	775

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL CIVILIAN LABOR FORCE*.	26,725	25,675	33,900	9,025	32,275	34,350
Total Unemployment	3,050	4,075	4,275	975	2,450	4,750
Rate	11.4%	15.9%	12.6%	10.8%	7.6%	13.8%
Rate (Seas. Adj.)**	10.8%	15.1%	12.9%	12.2%	7.0%	-INA-
Total Employment	23,675	21,600	29,625	8,050	29,825	29,600
THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED FOR ECONOMIC ASSISTANCE PROGRAMS						
TOTAL WAGE AND SALARY. . . .	17,950	18,925	25,850	8,400	21,150	24,475
Manufacturing.	2,300	1,700	3,125	1,050	2,200	1,850
Mining and Quarrying	275	1,125	3,400	0	550	50
Construction	1,175	1,000	1,175	325	1,950	1,450
Trans., Comm., & Pub. Util..	1,075	1,525	925	525	975	950
Trade.	5,075	3,600	4,950	3,500	5,375	7,775
Fin., Insur., & Real Estate.	900	350	700	250	850	950
Services and Miscellaneous .	3,700	4,925	2,825	1,250	4,450	4,625
Government	3,450	4,700	8,750	1,500	4,800	6,825

*Adjusted to the Current Population Survey (CPS) to reflect place of residence.
**Seasonal adjustment not applicable for economic assistance programs.

NOTE--Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

Prepared in conjunction with the U.S. Department of Labor, Bureau of Labor Statistics.

Arizona Labor Force and Employment for Economic Assistance Programs February 1986

County	Civilian Labor Force	Employment	Unemployment	Rate
Statewide	1,530,989	1,431,218	99,771	6.5%
Apache	15,384	12,369	3,015	19.6
Cochise	35,176	32,200	2,976	8.5
Coconino	38,460	34,659	3,801	9.9
Gila	11,860	9,871	1,989	16.8
Graham	7,914	7,043	871	11.0
Greenlee	2,963	2,668	295	10.0
La Paz	4,594	3,756	838	18.2
Maricopa	951,527	901,165	50,362	5.3
Mohave	26,817	23,752	3,065	11.4
Navajo	25,780	21,663	4,117	16.0
Pima	300,852	284,912	15,940	5.3
Pinal	34,066	29,749	4,317	12.7
Santa Cruz	9,068	8,092	976	10.8
Yavapai	32,091	29,644	2,447	7.6
Yuma	34,437	29,675	4,762	13.8

These figures are the only official BLS labor statistics to be used for revenue sharing purposes. They are not designed to be used as economic indicators. Note: Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

Estimated Hours and Earnings of Production Workers in Selected Industries in Arizona February 1986

INDUSTRY	AVERAGE WEEKLY EARNINGS			AVERAGE WEEKLY HOURS			AVG. HOURLY EARNINGS		
	FEB.* 1986	JAN. 1986	FEB. 1985	FEB.* 1986	JAN. 1986	FEB. 1985	FEB.* 1986	JAN. 1986	FEB. 1985
FOR THE STATE OF ARIZONA*									
Manufacturing	394.68	391.68	381.48	40.9	40.8	40.8	9.65	9.60	9.35
Aircraft & Missiles	INA	INA	INA	INA	INA	INA	INA	INA	INA
Food & Kindred Products	368.60	389.34	320.00	40.5	42.0	39.9	9.09	9.27	8.02
Primary Metals	546.34	509.31	494.32	41.1	40.2	39.8	13.28	12.66	12.42
Machinery	341.38	334.80	327.54	38.4	37.2	38.9	8.89	9.00	8.42
Copper Mining	566.71	553.62	568.82	40.8	39.8	41.1	13.89	13.91	13.84
Construction	431.55	437.63	428.79	35.2	36.9	36.4	12.26	11.86	11.78
Utilities	586.57	595.52	553.76	43.1	43.5	43.5	13.60	13.69	12.73
Retail Trade**	232.17	231.40	226.61	32.7	32.5	32.7	7.10	7.12	6.93
Wholesale Trade	377.53	374.10	368.34	39.7	39.4	40.3	9.50	9.49	9.14

* Preliminary
** Excludes eating and drinking places.
NOTE--These estimates are based on a sample of full and part-time production and related employees whose payroll and hours are reported for the pay period which includes the 12th of the month. Prepared in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics.

--Prepared by Labor Market Information, Research and Analysis (1972 SIC, 1/86)

Arizona Unemployment Insurance Activities - January 1986

	January 1986	December 1985	January 1985	% Change From 1 Year Ago
Arizona Claimants Served*	33,338	27,737	25,908	+28.7%
Arizona Average Weeks Unemployed**	8.2	8.5	8.5	- 3.5%
Arizona Benefits Paid*	10,767,507	8,990,469	8,954,292	+20.2%
Arizona Trust Fund Balance	$326,009,229	$326,535,005	$246,312,654	+32.4%

*All Programs **UI Only

New Labor Market Information (LMI) Publications Now Available

The 1985 Maricopa County Small Employer Wage Survey, an annual publication, is now available upon request. This survey gathers and reports wages paid to workers of private firms with 99 or fewer employees in Maricopa County in August 1985. The publication includes wages for occupations by industrial groups with a wage analysis.

Also released this month is the Maricopa County Employer Wage Survey, a wages-paid report to those employees of the larger firms in the county in August 1985, and the Pima County Small Employer Wage Survey for 1985.

Another publication, 1984 Job Bank Wage Levels gives, for the first time, wage rates offered by employers to job placements through the Department of Economic Security's job bank. This 65 page report states low, weighted average, and high wage levels for over 200 occupations in all of the Arizona counties and 25 cities. As these employment positions represent a greater portion of entry-level jobs, new entrants into the labor force, training program administrators, and training completers should find this publication especially useful.

Also recently released is the 1986 update of the Arizona Occupational Employment Forecasts. Available for each county in Arizona, these publications provide estimates of current and projected employment and demand for nearly 700 occupations. Data presented are based on a survey conducted by the Occupational Employment Statistics (OES) Unit of the Research Administration in Cooperation with the U.S. Department of Labor. During the three-year program cycle most recently completed, nearly 16,000 firms with more than 800,000 employees were successfully surveyed--yielding a response rate of 85 percent.

The above reports can be obtained by writing to the address on the back of this Newsletter or by calling (602) 255-3871.

Introducing the Tucson Consumer Price Index (CPI)

Here it is ladies and gentlemen--115.0. Yea! Applause! Applause!

What? You are not impressed? You say you have seen 115 before, and you do not see anything special about this one?

If that is the way you feel, you are wrong. The number 115 is very special in what it represents in this case. It represents, you see, an index number summarizing the change of prices of all consumer goods and services (as represented by a market basket of selected items) in the Tucson metropolitan area between the first calendar quarter of 1983, and the fourth quarter of 1985. That is impressive, indeed.

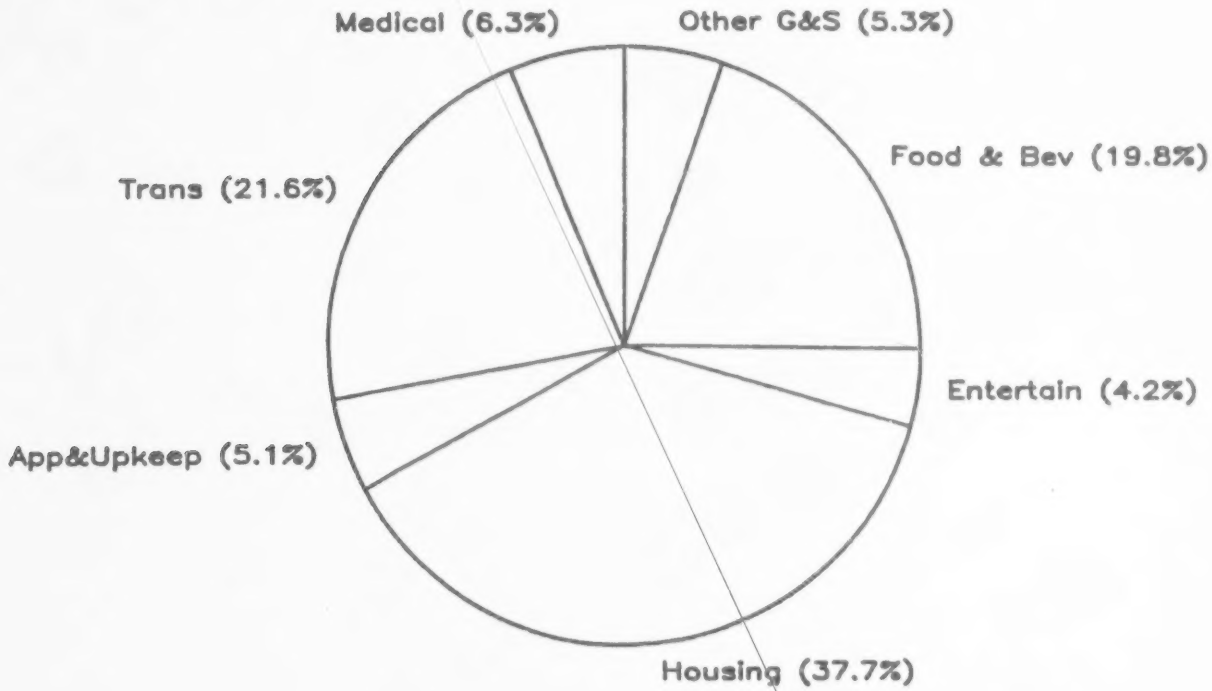
It tells us that during these three years, while prices were rising 14.3 percent in the Phoenix area and 11.7 percent on average in the United States, they were rising 15 percent in Tucson. In other words, there is now a Tucson-specific inflation rate,

Gennaro, principal investigator. Those interested in the index's development can obtain a copy of the report from DEBR.

Contrary to popular belief, price indexes are not free. They do not spring full-

TUCSON CPI — Relative Importance

Quarter 4 1985



SOURCE: University of Arizona, Division of Economic and Business Research

and we now know that Tucson has been experiencing greater inflation than Phoenix. Tucson employers and labor organizations now have a measure against which to gauge proposed changes in wages. Tucson employees can know if they are being offered "real" increases, or just a chance to stay even. Or they can know if they are losing ground.

The index was published for the first time in January 1986 by the Division of Economic and Business Research (DEBR), College of Business and Public Administration, University of Arizona. The index development procedure was ably reported by Dr. Nat de

blown from the head of Zeus, but have to be carefully, and meticulously compiled, and the process has to be repeated every quarter or every period for which the index is reported. The Tucson Consumer Price Index (CPI) is sponsored by First Interstate Bank of Arizona, just as the Phoenix CPI is sponsored by Valley National Bank.

The methodology used is a close approximation of the method used by the U.S. Department of Labor, Bureau of Labor Statistics in compiling the national "All-Urban" CPI. Because the national methodology was followed, the rates of price

changes in Tucson can safely be compared to rates of changes in cities surveyed by BLS. All are warned, however, not to imply one city is more expensive than another based on consumer price indexes. This kind of index can only measure relative rates of change--inflation or deflation.

Note from the table below that there is a host of other index numbers associated with the CPI for "all items," i.e., the 115 reported at the outset. In fact, specific rates of change can be computed for every component of the index that is reported. A fast scan of the 1985 quarter four column reveals that the price of medical care in Tucson increased the most since 1983 (37.6 percent), and fuel prices increased the least (declined 3.2 percent).

Landlords and tenants might note that there is a residential rent component. During the three year period, it increased 20.9 percent or about 7 percent on average each year. (But home owners fared worse with costs rising 26.1 percent.) Landlords might consider using this component of the index to automatically adjust rents over long-term leases.

So you can see from these few examples there is a lot packed into that otherwise ordinary 115. Because that is so, the Arizona Labor Market Information Newsletter began publishing the Tucson CPI on its front page with the other reported price indexes in the March issue.

Ron Simon

TUCSON CONSUMER PRICE INDEX

BASE PERIOD QUARTER #1 1963 = 100

INDEX NAME	QTR 1 1983	QTR 4 1984	QTR 1 1985	QTR 2 1985	QTR 3 1985	QTR 4 1985
All Items	100.00	109.43	113.23	114.75	114.38	114.98
Food and Beverages	100.00	106.03	107.92	108.18	109.16	110.26
Food	100.00	105.72	107.85	107.89	108.87	109.90
Food at Home	100.00	105.06	107.28	106.68	108.95	109.78
Cereals and Bakery Products	100.00	108.94	112.99	115.06	115.52	116.30
Meats, Poultry, Fish, & Eggs	100.00	96.41	95.12	94.39	91.76	100.90
Dairy Products	100.00	95.51	104.49	103.44	100.82	103.00
Fruits and Vegetables	100.00	123.12	133.60	130.81	151.12	139.15
Other Food at Home	100.00	107.25	106.50	106.14	107.98	104.86
Food Away from Home	100.00	107.12	109.05	110.45	108.70	110.16
Alcoholic Beverages	100.00	111.26	109.25	113.15	114.06	116.34
Alcoholic Beverages at Home	100.00	109.53	106.43	109.54	108.67	112.33
Alcoholic Beverages Away from Home	100.00	116.79	118.25	124.68	131.25	129.12
Housing	100.00	109.40	113.26	114.11	113.54	114.70
Shelter	100.00	114.87	121.42	122.10	123.28	125.45
Renters' Costs	100.00	113.18	120.94	120.73	121.02	124.10
Rents, Residential	100.00	112.87	119.26	119.66	121.11	120.85
Other Renters' Costs	100.00	115.26	132.11	127.85	120.43	145.80
Homeowners' Costs	100.00	115.68	121.66	122.76	124.37	126.10
Owner's Equivalent Rent	100.00	114.86	121.94	123.22	125.02	126.80
Household Insurance	100.00	146.50	127.64	120.72	121.53	117.62
Maintenance and Repairs	100.00	113.94	109.89	112.68	109.80	114.40
Fuel and Other Utilities	100.00	104.39	102.13	103.91	98.03	96.78
Fuels, Gas (Piped) & Electricity	100.00	105.91	102.19	103.97	97.77	93.66
Other Utilities & Public Services	100.00	100.01	101.96	103.76	98.77	105.73
Household Furnishings and Operation	100.00	100.05	103.15	103.47	103.83	104.83
Apparel and Upkeep	100.00	103.19	107.42	107.69	103.93	104.11
Transportation	100.00	108.87	113.88	117.81	116.10	114.15
Private Transportation	100.00	107.68	114.07	116.34	113.94	112.17
New and Used Cars	100.00	120.97	129.13	134.38	131.01	128.95
Motor Fuel	100.00	93.40	83.69	90.13	85.10	83.82
Other Car Costs	100.00	104.94	125.94	119.84	121.50	119.59
Public Transportation	100.00	124.51	111.38	137.05	144.44	140.31
Medical Care	100.00	112.88	126.75	131.86	133.18	137.64
Entertainment	100.00	105.94	109.17	108.96	108.38	109.32
Other Goods and Services	100.00	130.94	122.20	124.38	127.42	126.44

Source: University of Arizona, Division of Economic and Business Research.

The Joy of Statistics

I admit to a lot of eccentricities but few that I will confess in public. Except this: I love statistics. I am an avid fan of the "Statistical Abstract of the United States." It's the best book the government publishes. I have a copy of the first edition (1879), and it will tell you--among other things--that the number of miles of railroad track in this country doubled in the first decade after the Civil War. But the most recent edition has 10 times as many tables and will enlighten you on anything from the number of golfers (14 million in 1983) to industry's spending on research and development ($59 billion in 1982).

The joy of statistics is not that they always provide answers but that they usually provoke good questions. If I were doing a story on water, the first question I'd ask is, Why has per capita consumption roughly doubled since 1950? If someone asked me to invest in a beer or wine company I'd probably decline. As a nation, we're getting older, and--having checked--I can tell you that consumption of alcohol drops as people age (half of people over 60 say they don't drink). Good statistics are rarely the end of knowledge, but they're often the beginning. Properly used, they can lead to truth and protect from falsehood.

Small Lies: The trouble is, of course, that statistics are regularly abused. The most common abuse probably occurs in everyday conversation, when people casually mention a number--making it up or remembering it incorrectly--to win an argument. These are little lies that we practice, but they're symptomatic of broader statistical brutalities. Wrongly used, statistics are a plague, because they project a false air of authority. During the war in Vietnam the Pentagon became obsessed with "body counts." Many large companies suffer from the illusion that they can be "run by the numbers": that top executives can exercise control through statistical reports from line managers. What happens is that line managers spend so much time reporting that they can't manage.

Some distortions are deliberate. Public opinion polls invite deception. To prove the popularity of President Reagan's tax plan, you cite surveys showing that roughly half of the public favor it, with about a third against. To demonstrate opposition, you cite polls indicating large majorities against specific proposals, such as the elimination of the deduction for local taxes. (In fact, inconsistent results often indicate just that: the public is ambivalent.) And some self-serving statistics leave you gasping. The Newspaper Advertising Bureau reports, for example, that more than 70 percent of men look at newspapers' food sections and a similar proportion of women look at sports sections. Really?

If you're going to use a number, you'd better know where it comes from, how reliable it is, and whether it means what it seems to mean. The garbage-in, garbage-out problem has been with us a long time. Or, as British economist Sir Josiah Stamp (1880-1941) put it: "The Government (is) very keen on amassing statistics. They collect them, add them, raise them to the nth power, take the cube root, and prepare wonderful diagrams. But you must never forget that every one of these figures comes in the first instance from the village watchman, who just puts down what he damn well pleases."

I admit to having used that wonderful quote before and that one reason for writing this column is to use it again. But the real reason is to gripe. Anyone who is a regular user of government statistics knows that he or she's been a victim of recent spending cutbacks. Incredible though it seems, the Labor Department no longer counts how many Americans belong to labor unions. Likewise, it has discontinued its survey of turnover rates (how many people quit or are fired) in manufacturing. Throughout the government there's been a nibbling away at the statistics we collect to show our own social and economic conditon.

To be sure, these are austere times; and some information is available from private sources. But, mostly, these cutbacks are shortsighted and abandon government's legitimate functions. Good political deci-

sions are hardly guaranteed by good information, but they are even less likely with bad information. It's only when we don't have them that we realize how vital reliable statistics are to our social vision. For example, because we don't know the number of illegal aliens, the problem may be exaggerated (a recent panel of the National Research Council estimated that they number between two million and four million, well below many other estimates). Nor do we have an accurate estimate of the number of illiterate Americans.

Data Gaps: The government's statistical enterprise dates back at least to the first census in 1790. But few Americans realize that statistics that populate nightly television news are mostly recent. The government began publishing the gross national product on a quarterly basis only in 1947. It was no simple job to figure out, first, how to measure the economy's total output and then to devise surveys to do it. There were comparable problems with data for the unemployment rate (first collected on a monthly basis in 1940) and the consumer price index (introduced monthly also in 1940). Estimating the employed, for example, was relatively easy. You could ask employers. But how do you determine who wants a job and doesn't have one? You can't ask employers. Breakthroughs in sampling techniques for households were necessary.

Even now, few of these statistics are perfect. We are a predominantly service economy, yet our detailed information about service industries is paltry when compared with manufacturing. Many of our statistics could be improved at modest cost. The future of the republic is not in jeopardy, but some government activities deserve more because government should do well what it exists to do. I recognize that I'm exposing myself to ridicule. In our society, if you love dogs, cats, or goldfish you're considered normal, and even nice. Say a kind word for statistics and you're regarded as a little mad. As a statistics consumer I'm also open to the charge of self-pleading. Well, I can take it. I'm tough. But don't call me a numbers-cruncher. I don't crunch them, I coddle them.

Robert J. Samuelson

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New Developments

"New Developments" is featured each month as a service to employers and job seekers. It is a compilation of public announcements of the more significant new construction, grand openings, major hirings and layoffs, and other employer events that have special significance for Arizona labor markets. The announcements are paraphrased and otherwise edited from articles published in newspapers and other periodicals from throughout the state. "New Developments" are limited to space available, and no attempt is made to compile an exhaustive list of all such events that have occurred during the month.

MANUFACTURING - The high tech AiResearch plant, which has been under construction in Tucson since October 1984, will open its doors at the beginning of the summer as the AiResearch Electronics Systems Division begins to move in. This $25 million building project is nestled in the foothills of the northwest side, at 11100 North Oracle Road. This first phase of the plant, which is composed of four primary buildings and covers about 355,000 square feet, is only part of a larger plan. AiResearch expects to expand the facility to 1 million square feet by the mid-1990s.

According to Bob Handley, AiResearch manager of sales, the company doubled its Tucson work force to 800 employees by adding 376 new workers in 1985, and hopes to do the same in 1986, raising the total to 1,200. He added that by the time the "fuller complement" is finished in about 10 years, AiResearch expects to employ approximately 4,000 people. The University of Arizona's Division of Economics and Busi-

ness Research has projected that two extra jobs will be created for every one job directly linked to AiResearch.

American Woodmark Corporation of Winchester, Virginia (a cabinet manufacturer) plans to build a manufacturing facility at the Airport Industrial Park in Kingman. Company officials said they hope to begin construction within a year of a 100,000 square-foot plant that will house assembly and warehousing operations. The plant initially will employ 50 people. Officials said the plant will serve as a regional assembly facility for distribution of kitchen and vanity cabinets to West Coast markets.

Ground was broken in mid-February on a $55 million facility for the M/A COM Microwave Subsystem Divison in Chandler. The Massachusetts-based firm will manufacture microwave systems in the 80,000 square-foot facility. About 280 employees from M/A COM's four plants in Tempe will be moved to the new plant, which is expected to be in full operation by October. Approximately 550 employees will work there by 1989.

LAYOFFS - Hughes Aircraft Company announced in mid-March that it would lay off about 300 employees at its Tucson plant within 60 days. The layoff affected mostly support employees in administration and engineering rather than production workers, spokesman Michael Letson said. Hughes employs nearly 9,000 people, up from the 6,500 employee work force in the beginning of 1985. Leston said the decision to cut the employment level was made after a study of the plant's "work skills mix" conducted over the past few weeks. Employees laid off will receive two weeks notice, and the company is producing a variety of services, including aid in seeking new employment, counseling, and the assistance of the Arizona Department of Economic Security, officials said. They also said the plant has a backlog of work that will take several years to complete.

Cyprus Minerals Company plans on taking over the Sierrita copper mine near Tuscon on April 1, and notified its 1,100 employees in mid-March that over half of them would become laid off effective with that date. "Our operating plan requires an initial work force of approximately 600 total employees," the notice said. Cyprus told the Sierrita employees to reapply for their jobs at the mine and that they would hear within 11 days whether they would be retained. "Looks like we are going to be new hires if we are going to get hired. And that is an if," said Glenda Knagge, a 30-year old mill operator who has worked at Sierrita for 12 years. Cyprus, spun off from Amoco eight months ago, announced in February its intentions to buy Duval's Sierrita and Esperanza mines about 25 miles south of Tucson. Only the Sierrita mine, which produces about 200 million pounds of copper annually, is operating. Cyprus spokesman, Richard Hagman said, "We are trying right now to take steps to ensure an orderly transition of the work force."

American Rockwool in Casa Grande closed its wool insulation manufacturing plant on March 11, laying off about 100 workers, a company executive said. The plant had been operating under a conditional operating permit since last summer, but that permit expired a few days after the shutdown. The plant was closed because it was unable to meet federal air quality standards.

REHIRES - The Phoenix-based Semiconductor Products Sector of Motorola Incorporated recalled about 350 Valley employees laid off last year, company officials announced at the beginning of March. The sector expects about 70 percent of the furloughed employees to accept Motorola's invitation to return to work. The recall involves employees who took a voluntary leave as well as those laid off by the firm, according to Ken Phillips, company spokesman. Motorola also has restored the pay cuts made during late 1985 in the semiconductor sector. Half of the cuts, for about 18,500 employees, were restored in mid-February. The rest were reinstated as of March 1. Because of automation, semiconductor employment will not grow as rapidly as it has in the past, Phillips said. But Motorola is pleased with the industry's slight upturn and expects continued improvement. "We are seeing a broad-based demand," he said, "which is good."

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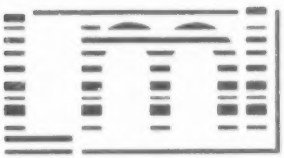

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